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OVER THE HORIZON:  
READY OR NOT?

A Monograph  
by  
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USMC



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## ABSTRACT

OVER-THE-HORIZON: READY OR NOT? by Major William R. Cleveland, USMC, 51 pages.

This monograph will analyze and determine whether current United States Marine Corps command and control systems are capable of permitting successful amphibious operations from Over-the-Horizon (OTH). The Marine air-ground task force's (MAGTF), a combined arms force, ability to assault from extended distances with increased lethality, operations tempo, and tactical mobility has increased the options available to the commander. However, OTH brings with it an increasingly complex command and control problem. Diverse mission requirements, limited communication channels, and the need to be able to control widely dispersed forces pose a challenge for the tactical commander.

The monograph first examines two modern command and control theories to provide a theoretical foundation for OTH. It then analyzes two World War operations and a present day exercise to gain practical insights into command and control issues and problems. Examination of the OTH concept will complete the practical data base of the study. The theoretical and practical concepts and data will be compared and examined through a four pronged filter taken from Col Wass de Czege's Understanding and Developing Combat Power. These four functional areas will serve as the criterion for analysis.

This monograph concludes that an OTH assault is possible today; however, communications plays a large part in determining the amount of flexibility the MAGTF commander will have. Corrections should include a restructured communications system, new equipment procurement, and a continuation of the education process for its leaders and personnel in the area of command and control.

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## INTRODUCTION

Command is based on task and situation. The task lays down the aim to be achieved, which the commander charged with achieving it must keep in the forefront of his mind.

1

Simpkin

An ideal command system, then, should be able to gather information accurately, continuously comprehensively, selectively, and fast. Reliable means must be developed to distinguish the true from the false, the relevant from the irrelevant, the material from the immaterial...

2

Van Creveld

Command and control of forces in conflict is crucial for success at sea and on land. The commander's ability to concentrate military force in time and space, at decisive points, is a function of the effectiveness and efficiency of a command and control system. It is important for commanders to have the wherewithal to influence the battle in a timely manner. A standard set of procedures and communication channels forms the basis for such a system.

In order to understand what a command and control system is we must first have a common understanding of the terms involved. Therefore, command is the ability of the commander to impart his thoughts, to concentrate responsibility, and to empower subordinates with sufficient freedom of choice to accomplish the assigned tasks. Control is a mechanism that focuses effort, establishes limits, and provides a structure under which the system operates.

The purpose of this monograph is to examine command and control issues as they pertain to amphibious operations, in particular, "Over-the-Horizon" (OTH) amphibious operations. This paper will analyze and determine whether the current U.S. Marine Corps command and control system is capable of executing successful amphibious operations from OTH.

The advent of the helicopter in the late 1940's gave the nation the capability to conduct operations from OTH. OTH, defined as beyond visual and radar range observation from the shore, is normally thought of as in excess of 25 miles. Today, current amphibious combat systems, rotary-winged aircraft, and air cushioned vehicles have given the United States Marine Corps a capability to operate in excess of a 25 mile range. The Marine air-ground task force's (MAGTF), a combined arms force, ability to assault from extended distances with increased lethality, operations tempo, and tactical mobility has<sup>3</sup> expanded the options available to the commander. However, OTH brings with it an increasingly complex command and control problem. OTH assaults require the<sup>4</sup> capability to execute a wide variety of missions, often at extended ranges. Additionally, limited communication channels and the need to control widely dispersed forces pose challenges for the tactical commander. Can the tactical commander of today's



amphibious assault force meet these challenges? In order to answer this question, we will examine theory, amphibious warfare history, and the current capabilities of the United States Marine Corps.

Two military theorists, Martin Van Creveld and Richard E. Simpkin, have written extensively on the subject of command and control. Both authors have helped define the modern parameters for an ideal command and control system and its requirements. This paper will provide a review of each theory and will analyze each author's salient points using four criteria. These two theories will form the basis for an ideal amphibious command and control theory.

Following the examination of theory, I will analyze two World War II (WW II) amphibious operations. This analysis reveals a historical perspective on United States Marine Corps amphibious doctrine and practices. The two operations chosen are Guadalcanal and Iwo Jima.

Operation KERNEL BLITZ 88-1, conducted in early 1988, will provide an opportunity to examine current doctrine and practice. This operation illustrates many of the concepts and practices envisioned in the OTH assault. The analysis of this exercise provides fundamental clues in determining whether or not OTH is viable today.

Finally, the paper will discuss OTH command and control requirements and current capabilities. An analysis of this evidence in view of the evidence attained in our earlier discussion will answer the research question.

The evaluation criteria comes from Col Wass de Czege's Understanding and Developing Combat Power <sup>5</sup>.

The relevance of such criteria may at first seem quite arbitrary. However, each criterion describes a crucial part in a functioning amphibious command and control system. Each component area must function effectively for the commander to be successful on the field of battle, whether fought at sea or on land.

Four criteria provide the basis for analysis: span of control, standard operating procedures (SOPs) and doctrine, staff efficiency, and communication adequacy. Span of control involves leadership and training. The number of actions and subordinates a commander can effectively control depends upon the organization. It also involves the commander's ability to anticipate and maintain an up-dated and accurate estimate of the situation. SOPs and doctrine form the basis for planning, training, and executing any operation. The doctrine and SOPs criteria consists of a look at each's applicability, simplicity, and flexibility as it applies to the execution of amphibious warfare. Staff efficiency criterion consists of a look at the

staff organization and how effectively it functions. Ideally, the staff complements the commander making the entire unit more capable. The final criterion, communications adequacy, will address the transmittal and processing of information within the organization. This criteria consists of two parts: system design and employment. System design aspects will consist of an evaluation of equipment and procedures. System employment will include an examination of system redundancy and operator proficiency and discipline. It will also include a look at the siting of emitters.

In summary, each commander must know how much he personally can control. The command and control system must have built-in flexibility to make allowances for different styles of leadership and capability. The SOPs and doctrine practiced must be applicable and simple. The staff's efficiency must be at a high level. This efficiency, in many cases, determines success or failure during the execution phase. Communication is the adhesive that will bond the entire process together. Thus, all four criteria are pertinent and can help form a matrix for analysis for successful amphibious operations.

## THEORY

The essential thing is action. Action has three stages: the decision born of thought, the order or preparation for execution, and the execution itself. All three stages are governed by the will. The will is rooted in character, and for the man of action character is of more critical importance than intellect. Intellect without will is worthless, will without intellect is dangerous.

6

Hans von Seek

Command and control in a sense is simply a translation of thought into action. The design of a system which completes this process must fulfill several important requirements:

- (1) The capability to identify the desired goal must exist.
- (2) Procedures must be in place to allow adequate planning and must consider the available resources and capabilities of the executors.
- (3) The system must consider plan development and rehearsal time. Inconsistencies must be worked out and the plan finalized.
- (4) The plan and its requirements are then executed. During execution, the commander and his staff must supervise the implementation of the plan. Adjustments to the plan are made when necessary to assure successful completion.

These four steps form a cycle for operations.

This cycle, which operates continuously, emerges as the basis for running the organization. Thoughts are translated into action, over and over again.

Crucial to this process are three items:

- (1) The set of procedures people use to plan, decide, and implement actions.

- (2) The ability of a system to transmit consistent and accurate information. Information must be able to be transmitted vertically and horizontally within the organization. Just having a physical system capable of transmitting information is not the answer to command and control problems.
- (3) People affect communications. People are on both ends of transmitted data. People filter information they receive and transmit, regardless of the procedures in place. Alteration of information will occur regardless of the mechanical system used.

As one can see, the command and control cycle operates in a changing and complex environment. Complexity is not, in itself, the major issue of command and control. However, it will serve as a starting point for our discussion of theory.

Martin van Creveld analyzes military command and control aspects in his book Command in War. His discussion on command in war concludes that the single most important point one can derive from his study is<sup>7</sup> that "command cannot be understood in isolation". Command and control encompasses the entire operational continuum; ranging from politics to tactics. "No single communications or data processing technology, no single system of organization, no single procedure or method, is in itself sufficient to guarantee the successful or even adequate conduct of command in war."<sup>8</sup> An ideal solution to this complex issue probably does not exist however, the requirement for a functional command and control system does. Let us now

examine the other characteristics of this complex issue.

Van Creveld's analysis of a command and control system begins with the premise that the sole purpose of such a system is to eliminate as much uncertainty as possible. The fog of conflict forces the commander to make battlefield decisions with incomplete information. Any system which allows the commander to perceive a clear vision of the battlefield could enhance the commanders effectiveness. If the commander's effectiveness increases, then it is possible for the entire command to also increase its effectiveness. "It is vital, in other words, for structure and modus operandi of any command system to be adapted to the measure of uncertainty involved in the performance of the task at hand."

Van Creveld argues that decentralized command and control reduces the amount of uncertainty within an organization. Decentralized command and control uses SOP's and a fixed repertoire of tactical responses to gain flexibility and build initiative in subordinates. The commander must begin the tasking process with a clear intent statement. A trusted, trained, and thinking subordinate commander can focus his organization successfully on the outcome. Mission accomplishment, therefore, is dependent upon a diffusion of authority to the lowest levels. The commander who is

willing to delegate tasks to subordinates and allow them the latitude to succeed or fail builds unit cohesion. Cohesion is the result of time spent together and participation in trust building exercises. This type of command and control system uses mentorship as a primary building block. Mentorship helps develop educated leaders who will think for themselves. However, the mentorship process takes time to work effectively. This type of system must allow units and leaders to have stability over an extended period to be successful. The professional armed forces of today are an ideal paradigm for such a system. Aggressive, intelligent subordinates and leaders can reach their true potential. These unit characteristics allow the armed force to react quicker than one that has not spent the time together.

An analysis of Van Creveld's theory reveals the following characteristics. The limit for span of control consists of three or four items or decisions on today's battle ground. Confusion and stress during conflict will degrade a person's ability to retain focus on his assigned task. Delegation of tasks and sub-tasks pushes decision making to lower levels allowing each leader to focus on the three or four most important decisions they must make.

The standard operating procedures and doctrine

used in a decentralized command and control system have to be consistent with the organization's capabilities, manpower, training, discipline, and tactics. Resource management conducted at lower levels of the organization allows quicker action, flexibility, and simplicity in accomplishment of an operationally oriented task.

An efficient staff processes information, conducts planning, and helps the commander supervise much more effectively if they have operated together over time. The staff must build trust and confidence in each of its members. The military staff can relieve the commander from the pressure of the administrative detail of the day to day operations. These specialized officers can operate within predetermined guidelines and within each member's span of control. A staff with effective SOP's and doctrine can narrow and define the gap of uncertainty for the commander.

People familiar with a communication system's design and employment characteristics will improve their performance over time. Personnel effectiveness improves due to increased personal contact, longer training, and practiced communication discipline. Van Creveld's ideal communication situation would use multiple communication channels: formal, informal, and "directed telescopes"<sup>10</sup> to communicate between levels. Commanders need the ability to focus at decisive



points in time and space to be effective.

A kind of directed telescope -- the metaphor is an apt one -- which the commander can direct at will at any part of the enemy forces, the terrain, or his own army in order to bring information that is not only less structured than that passed on by channels but also tailored to meet his momentary (and specific) needs.

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This distinct channel meets the commander's immediate needs. The regular reports tell the commander which questions to ask and the directed telescope enables the commander to answer those questions.

Self contained units reduce the need for communications. Formal and informal processing requirements within and between higher and lower commands decrease. The use of independent units simplify planning and reduce coordination time between lower and higher levels in the organization.

Cohesion is the linchpin of Van Creveld's decentralized command and control system. Cohesion building is a two-fold procedure of carefully selecting men and commanders and allowing them to serve together for a comparatively long period is crucial<sup>12</sup> to the success on the battlefield.

In Race to the Swift, Richard E. Simpkin envisions command and control as a key to the success on tomorrow's fluid battleground. The ability to communicate is at the heart of Simpkin's command and control<sup>13</sup> theory, which he calls "directed control". This

crucial aspect depends upon the ability of the commander to send and implant his intent accurately to his subordinate. Moreover, the subordinate must be tuned to receive it. Communication is the result of an "unbroken chain of trust and mutual respect running from the controlling operational commander to the section commander."<sup>14</sup> These two ideas, building trust and respect and the accurate passing of thoughts, form the basis on which directive control works. As we can see, communication skill is paramount.

The trust and respect built by such a system encourages the development of thinking leaders, who understand and treat "a superior's intention as sacrosanct and make its attainment the underlying purpose of everything he does."<sup>15</sup> Therefore, the requirement to confer with the commander diminishes. This action unburdens the communication channels and increases speed and flexibility within the organization. The truly important information flows from sender to receiver in less time.

The key to this entire issue rests in the procedures and command philosophy that Simpkin argues is most effective for maneuver warfare. The commander assigns tasks to his subordinates, gives them the resources to carry out the task, and identifies the constraints under which they must operate. The

thinking subordinate has all the necessary tools and the latitude under which to operate effectively. <sup>16</sup>

Implicit in this concept is a bridge of mutual respect and trust between senior and junior. The organization focuses; unity of effort, unit morale and esprit de corps increase and make the system function. Professional competence and leadership orient the entire organization toward excellence and success. This type of organizational environment and structure can handle rapid changing information and tasks which are common to an amphibious assault operation.

Forward control is another aspect of directive control which warrants discussion. The senior commander must be able to influence the course of battle at the decisive moment, if necessary. The knowledge and experience base the senior commander brings to a tactical situation enhances the chances of success. If he has a clear appreciation of the enemy situation, the terrain, and the disposition of his own forces, he can make an informed decision at the right point and place in time. In amphibious operations, an environment which is fluid and in which information is sometimes lacking, a commander must be able to make accurate and timely decisions. He can only do so if he has access to the most current data and information. In order to be effective the commander must command forward. He must "place himself at the focal point of

the battle, get and maintain a grasp of the situation<sup>17</sup> so that he can influence the battle, if necessary."

Analysis of Simpkin's theory results in the following. Span of control items are within the commanders capabilities. He places his trust and confidence<sup>18</sup> in the "chain of trust" and focuses his attention on the coordination of combat forces and its support elements at decisive points of the battle. His subordinates are aggressive problem solvers, who relieve him of routine concerns. A directive control organization preparing for warfare would not look for an "officer and gentleman, nor a officer and a manager, nor a commissioned supersoldier, but instead look for something in between."<sup>19</sup> Quality leaders, trained and educated to accomplish assigned tasks, given adequate resources and pre-determined constraints, are crucial to solving the span of control issue. They must know their personal limitations and also the limitations of their subordinates and superiors alike.

SOPs in Simpkin's mind are "routine and technical<sup>20</sup> matters." They provide support for a directive control command and control system. SOPs are simple and direct. SOPs, when practiced, become instinct. They provide the basis for training and serve as a memory aid in the field. "In sum, SOPs must provide a framework of discipline within which trained minds can

safely roam free. Their purpose is not to restrict human judgment, but to free it for tasks only it can perform." <sup>21</sup>

Simpkin's perspective on doctrine leads one to predict that a professional force under directive control must conduct maneuver warfare. Directive control enhances the quick tempo, the flexibility, and the responsiveness of maneuver warfare operations. In other words, speed is life.

Staff efficiency is dependent upon the size and complexity of the staff and organization. In the paradigm of directive control the staff consists of selected experts, trained and educated to conduct maneuver warfare. Small, simple, and supple are the characteristics envisioned for such a staff.

Staff members should be picked for competence and brainpower just as the commander is picked for flair and character. One of the staff's roles in executing the commander's will is to interact vigorously with him, shaping that will. This is teamwork at its highest.

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An evaluation of Simpkin's communication system focuses one on redundancy, disciplined use, and operator proficiency. A professional force operating under a directive control system would require a high level of communicator proficiency. All users would be knowledgeable and disciplined in the use of communication channels two levels up and two levels down. The network required would have secure, high capacity voice, data, and facsimile links. Duplicate sites in

the network would give redundancy on the battlefield. A system using such a tactic could prevent information loss in the event of the destruction of communication sites or nodes by the enemy. A manual method, such as a courier system which can carry the written word, should back up the electronic system. <sup>23</sup>

The previously discussed theories form a foundation of knowledge from which one can examine doctrine. Doctrine is the next logical step in transforming thought into action. The ideas of Martin Van Creveld and Richard Simpkin form the basis for a command and control system suited for amphibious war. The attributes of this ideal command and control system are swiftness, decisiveness, and flexibility. This optimal system supports a commander who can recognize opportunities, initiate actions to exploit those opportunities, and achieve success in an environment of uncertainty. A blend of all this gives amphibious operations a theory under which to function. The major points of such a system include the following:

- Decentralized command and control, with directed telescopes for the maneuver force.

- Directive type orders issued

- Knowledgeable, trained, and disciplined leaders and personnel

- Unit cohesiveness built in an atmosphere of trust and respect

- Carefully selected commanders and staff, who are able to communicate

--Commander's capable of giving clear intent and tasking assignments

--Subordinates capable executing commander's intent

--Small self-contained units

--Forward command philosophy and capability

--Redundant, responsive, and modernized communications system employed by trained and disciplined personnel

This theoretical command and control system maximizes effectiveness in a maneuver warfare unit and identifies the attributes which optimize efficiencies in the four criteria areas. The commander's span of control is within his capabilities. <sup>24</sup> Powering down, giving responsibility to junior leaders, allows the senior to concentrate his attention on fewer crucial decisions. Personnel execute action through the use of SOPs, thus allowing almost instantaneous response to tactical situations. The staff, consisting of a team of highly trained and competent individuals, helps the commander operate at peak effectiveness. Trained, disciplined personnel operate a computerized, redundant communication system.

### DOCTRINE

Doctrine is codified common sense...It is what tells the commander or a soldier what to do when specific directions are lacking.

25

Captain C.H. Amme, USN

Doctrine, as already noted, is the next logical step in our discussion. A look back in history can give us the background to understand and gain insights into the development, the application, and the adequacy of present day amphibious doctrine. Actual operations and exercise experiences can verify the correctness of doctrine.

The United States Marine Corps in the period dating 1920-1934 analyzed past amphibious engagements and developed a manual for the conduct of amphibious operations. The Tentative Manual for Landing Operations dated December 8 1933, forms the genesis for basic American amphibious concepts and operations. The manual stipulated the phases of an amphibious operations as: planning, embarkation, rehearsal, movement, and assault. They are still with us fifty odd years later. The command and control system designed for pre-WW II operations focused upon logistics and the movement of forces to a point on a hostile shore. Equipment deficiencies and untenable command relationships were just a few of the weakness identified by the original document. Because of these deficiencies, the primary goal of the "Tentative Manual" was to break down assaults from the sea into



scientific and technical tasks and procedures.

Analysis of the amphibious operations in the Dardanelles and the debacle of Gallipoli revealed to Marine planners the following categories of errors: "failure of command , a lack of means of control, a lack of special materials and equipment, failure of communications, inadequacy of naval gunfire support, and a failure in the field of logistics." <sup>26</sup> The "Tentative Manual" proposed a solution for all of these problems. The doctrinal concepts established by the manual envisioned a "philosophy of parallel command relationships between the naval officer in charge of the amphibious task force and the Commander of the landing force." <sup>27</sup> It also proposed the following:

a modernized control technique for ship to shore movement, experimental development of landing craft and tracked land vehicles, improved ship to shore communications, a doctrine for naval gunfire support, a doctrine of close aviation support, fundamentals for embarkation and combat loading of transport, and fundamentals for shore party organizations.

<sup>28</sup>

These doctrinal concepts were the subject of many exercises and war games in the 1930's. The basic tenets underwent modification, improvement, and scrutiny by U.S. Navy, Marine Corps, and U.S. Army authorities. In 1938, this emerging doctrine became reality as Fleet Tactical Publication (FTP) 167, Land- ing Operations Doctrine for the U.S. Navy. FTP-167 served as doctrine for WW II amphibious operations.

### HISTORICAL EXAMPLES

Rather than attempt to survey all amphibious operations from WW II to the present, it will be enlightening to examine two WW II operations, Guadalcanal and Iwo Jima. My observations will note the improvements in basic techniques made by the Fleet Marine Forces in the two and half years between the two operations. I will begin with a discussion of the Guadalcanal landing.

In August 1942, the Pacific Ocean Solomon Island group became the site of the first American offensive ground actions of the Pacific. It would mark the beginning of the end of Japanese dominance of the Pacific. The operations conducted on the island of Guadalcanal began on 7 August 1942.

The first flaws in the command and control structure used at Guadalcanal showed themselves in June 1942 at a planned training meeting between Vice Admiral (VAdm) Robert L. Ghormley, Commander of South Pacific forces, and Major General (MGen) Alexander A. Vandegrift, Commanding General 1st Marine Division. Doctrine, as dictated by FTP-167 and the Tentative Manual of 1934, required "the officer implementing an amphibious operation to secure lines of communication into the zone of conflict and isolate the target in preparation for the attack and for the unloading of

necessary cargo and equipment." The unified commander, VADM Frank J. Fletcher did not take steps to isolate the zone of conflict. Rear Admiral (RADM) Richmond K. Turner, the Commander Amphibious Task Force (CATF), did not assume his post until mid-July, three weeks into the operational planning cycle. MGen Vandegrift, Commander of the Landing Force (CLF), had been working directly for VADM Ghormley; he now fell under the direction of a commander, not yet present. The CLF was dealing with a confusing and convoluted chain of command. He began planning for the operation without the guidance of a higher level operations plan. MGen Vandegrift had to allow for a transit and rehearsal time of two weeks. This would leave the Marines with only four weeks in which to identify a force structure, plan, train, and combat load available resources and forces. MGen Vandegrift's 1st Marine Division units were not in one location at the beginning of the campaign. Some were just leaving the United States, others were in Samoa and New Zealand. The finalized task organization included units from the 1st Marine Division, the 2nd Marine Division, and the 1st Raider Battalion. Unit cohesion was questionable even with these Marine forces.

RADM Turner, the CATF, accepted command in mid-July. He stepped into a situation where the scheme of maneuver planning was far along and combat loading of

the force had already begun. RADM Turner accepted the scheme of maneuver intact, but he disrupted the plan when he moved his command to the already loaded USS McCawley. This ship lacked an adequate communication suite and was a less capable command ship than the previously chosen USS Hunter Liggett. This decision hampered effective communications enroute to the AOA and also during the assault phase of the operation.

The commanders finally met at Kora in late July to discuss the final plans for the operation. There both RADM Turner and MGEN Vandegrift learned that U.S. command of the sea and air in the southeastern Solomons was questionable. The Japanese were well within their capabilities to control and command the sea and air in the Amphibious Operations Area (AOA) if they chose to do so.<sup>30</sup> That being the case Fletcher, worried about the survival of the carriers, decided to limit support by not allowing carrier aircraft to cover the assault shipping and landing area beyond the fourth day of the operation. In fact, the carriers and the amphibious shipping would be gone by the second day, leaving the Marines to fend for themselves.<sup>31</sup>

Fletcher was operating beyond his span of control. His actions did nothing but cause chaos and degrade the execution of the amphibious operation. Communica-

tion between the tired staffs and commanders was ineffective and added confusion to the planning process. The naval leadership failed to recognize that the Marines had undergone a doctrinal transition and were now a truly amphibious assault force. These naval officers continued "to think of Marines as small components aboard a warship, rather than as divisions and corps." <sup>32</sup> It is readily apparent that the safety of the limited naval assault shipping had a higher priority than the forces landed on Guadalcanal.

An analysis of the Guadalcanal assault phase of the operation reveals the following concerns. Several span of control issues have been identified:

- (1) A chain of command still struggling through the aftermath of Pearl Harbor.
- (2) A senior leadership who did not have adequate knowledge nor understanding of the requirements of amphibious operations.
- (3) The lack of a known force structure available for use.
- (4) Unity of command was non-existent and a precise mission intent statement or operational plan was never forthcoming.

Additionally, adequate maps of the area of operations were not available and the Japanese order of battle was unknown. Also, there were inadequate transportation assets to move the available task force's supplies and equipment to the AOA.

SOPs developed at lower levels enabled the Marines a degree of success one would not have expected know-

ing the state of affairs at the higher levels of command. During the ship to shore movement on 7 August 1942, "almost everything clicked as though it were being coordinated by a beautifully timed machine."<sup>33</sup> However, coordination procedures and communications systems design still required reevaluation and corrective action. The gunfire liaison teams, in particular, did not perform well. These teams lacked well trained personnel and needed lighter, water proofed, and dependable radio sets.<sup>34</sup> Navy carrier pilots flying in support of the landing force were not familiar with the ground commander's scheme of maneuver. The pilots and the ground commanders could only communicate via a complex path involving the higher echelons of command. Often the pilots circled the area until almost out of fuel, dropped their load of ordnance into the sea, and then returned to the carrier for refueling. There was no viable communication channel due to the shortfalls in the communication design and capabilities aboard RADM Turner's flag ship, the USS McCawley. One navy pilot reported that it was "essential that ground forces in an operation of this type have radio communication directly with liaison planes or the Air Group Commander in order that maximum support may be afforded ground personnel."<sup>35</sup> Overall, the design of the commu-

nications system needed refinement and the personnel needed additional training and up-graded equipment to become effective.

The lack of competent skilled personnel hindered staff efficiency. The organization failed to comprehend the required needs and man the staff for the conduct of an operation of this magnitude. The 1st Marine Division's operations staff initially consisted of a single lieutenant colonel and no other officers above the rank of lieutenant.<sup>36</sup> Numerous other examples are available, but the bottom line was that the staffs available for planning and executing were not organized, nor manned, to run an operation size of the Solomon Campaign. Unfortunately, the manning situation would suffered further deterioration due to combat loses.

On a positive note, Marine aviation units supported ground action during sustained operations ashore with much success. No better praise of actions at Guadalcanal can be written than that of MGen Vandegrift:

We were as well trained and as well armed as time and our peacetime experience allowed us to be. We needed combat to tell us how effective our training, our doctrines, and our weapons would be. We tested them against the enemy and found that they worked.

37

Two and half years later, the island of Iwo Jima would be the scene of the "classic" amphibious as-

sault. The Navy-Marine team had put many of the problems of Guadalcanal behind them. On Iwo Jima, adequate personnel and resources were available to accomplish the mission. The enemy and his defenses challenged the battle hardened Navy and Marine veterans of the Central Pacific campaign. Coordination between air, land, and sea forces attained a level of effectiveness never before reached.

Reflecting on the thirty-six days of unrelenting effort needed to crush the Japanese on Iwo Jima, Adm. Spruance concluded that in view of the character of the defenses and the stubborn resistance encountered, it is fortunate that less seasoned or less resolute troops were not committed.

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The execution of the Iwo Jima operation followed the exact doctrinal formula. Orders given were clear and concise, the chain of command was precise, and the individual commanders were not distracted by external events. Units were cohesive. Improvements in supporting arms coordination, both naval gunfire and air, were very much in evidence. It was efficient and devastating in effect. However, the Marines did not have Marine air providing continuous support. There was no discrimination between Navy and Marine air with regard to close air support effectiveness or delivery techniques. The Marine air-ground team was not yet reality.

A source of major disagreement between the Navy



and Marine commanders was over the length of the naval gunfire preparatory fires. The Marines wanted 10 days of preparatory fires, while the Navy would only provide slightly over three days of fires.

The centrally controlled ship to shore movement was one of the best ever executed. "It was a power-laden deployment, packing the utmost momentum yet devised by the mind and engineering genius of man. This was the acme of the amphibious assault."<sup>39</sup>

Staff organization and effectiveness was extremely efficient. The doctrine and the SOPs employed by the Navy-Marine team worked well. The Marines introduced the triangular structure in their battalions. Fire teams composed of 4 members were new, but proved advantageous by adding flexibility and effectiveness to the Marines capabilities to destroy enemy bunkers and tanks.<sup>40</sup> Teamwork between specialists (demolition teams, flamethrower operators, and tankers) and riflemen was paramount in the success on Iwo Jima. Combined arms tactics played a significant role in isolating and over running strong defensive installations.

Communications networks, vastly improved since Guadalcanal, used a specialized command and control ship to keep information flowing between components on shore and at sea. Operators were proficient and experienced. However, there was still a need for a

portable, water-proofed radio for air and naval gun-fire liaison teams. The combination of all these factors resulted in a well executed amphibious assault, which is still the standard for amphibious operations today.

The strategy successfully employed at Iwo Jima was a combination of control of the air and sea, plus overwhelming firepower from naval guns and planes against the objective, and a well equipped assault force highly versed in amphibious tactics.

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The Marine Corps experiences in WW II proved the effectiveness of its brand of amphibious assault. The amphibious command and control structure was able to execute and coordinate operations successfully. Amphibious doctrine provided a framework upon which to build a viable combat force. As WW II ended, the lessons learned, the SOPs, and the staff organizations came under question. During the post war reorganization of the armed forces, planners did not envision a requirement for frontal assaults from the sea. It was a concept that had seen its last days.

## PRESENT DAY OPERATIONS

The Marine Corps of the 1980's and 1990's operates with a doctrine based upon a maneuver style of war-fighting.

The results of maneuver warfare are both, physical and moral. The object of maneuver is not so much to destroy physically as it is to shatter the cohesion, organization, command, and psychological balance. Successful maneuver depends on the ability to identify and exploit enemy weakness, not simply on the expenditure of superior might.

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Attrition style warfare, based upon firepower and direct assault against an enemy's strength, is no longer a viable tactic. Many of today's situations require commitment of forces into an environment which precludes the use of these type of tactics. Sophisticated weaponry and sensors have made maneuver style warfare mandatory for survival. Costly equipment and trained men, competent and highly skilled, are not as expendable as in the past.

Kernel Blitz 88-1, a free-play, force on force exercise, serves as a example of present day Marine Corps capabilities. This exercise sought to combine a Marine Expeditionary Brigade (MEB) in a realistic amphibious assault scenario with a naval task force. The naval task force would operate under the Composite Warfare concept.<sup>43</sup> The naval task force consisted of a Carrier Battle Group (CVBG) and a Battleship Battle Group (BBG), which conducted integrated operations

with and in support of an Amphibious Task Force (ATF) seizing a beachhead for follow-on land forces. This scenario portrayed:

- (1) The movement of the ATF into the objective area.
- (2) Operations of the naval component to achieve air and sea superiority in the objective area and isolate it from opposing forces.
- (3) The naval forces practiced security tactics, mine clearing, deception, and psychological operations enroute to the objective area.
- (4) The ATF planned for and executed a long range raid. Other tasks included in the exercise were extensive intelligence gathering missions, a non-combatant evacuation, and a sequenced vertical and surface assault to capture an inland objective.

These multiple tasks allowed the commander and his staff to test their ability to command and control MEB sized forces during high tempo operations spread over large distances. While the majority of the ATF conducted assault rehearsals off San Nicholas Island, CA, one battalion simultaneously conducted a non-combatant evacuation operation (NEO) from Camp Pendleton, Ca., a distance of 45 miles. The next day, this same unit conducted a successful raid against opposition forces in Twenty-nine Palms, Ca, a distance of 135 miles.

A difference in commander's priorities and responsibilities between the Composite Warfare Commander (CWC), the Officer in Tactical Command (OTC), and the

CATF revealed a major flaw in Naval amphibious doctrine. In essence, it is a span of control issue. Doctrine, Naval Warfare Publication (NWP) 22(B), indicates that the CWC and OTC are normally the same individual. This individual is also the CATF. The CLF by doctrine coordinates and integrates actions with the CATF during all phases of amphibious operations. In particular, the execution phase seems to be a crucial period needing close coordination between the two, so it is logical for those officers to co-locate. However, the dual responsibilities of the CWC/OTC may cause him to move several hundred miles, due to the security requirements of the naval task force, away from the landing areas. How can the CLF control the landing force from over a hundred miles away? This raises an interesting question, because it is the same one that needs an answer if the Marine Corps is going to conduct an OTH assault. The Commanding General, 5th MEB, noted the problem, but offered only this comment in an after-action report: "This issue is not easily answered, long range communications may be the answer, however reliability is questionable and this single channel is subject to enemy action."<sup>44</sup>

Another area, that of staff and commander efficiency, underwent evaluation. Real time intelligence information would determine which of three proposed landing beaches, each with different initial objec-

tives, offered the best opportunity for success. The MAGTF planned to assault the least defended beach. The commander would not decide upon a particular beach until 8 hours before the main assault. Based upon an analysis of the information gathered, the commander decided to land at the least defended beach. The landing force landed unopposed. These forces swept swiftly to the rear areas of the opposing forces, disrupted and isolated lines of communication, and captured many opposition players. Follow-on forces of the MEB switched from the initial beach to landing at a more advantageous beach when the enemy withdrew forces in reaction to the MEB forces operating in his rear areas.

The SOPs and tactical procedures used by all units: Light Armored Infantry (LAV's), tanks, remotely piloted vehicles (RPV's), air assets, and the Battalion Landing Teams, proved the viability of the combined arms team. In particular, the RPV was a major contributor to the intelligence picture. Its use allowed timely location of the opposing force (OPFOR). This permitted the MEB forces to counter OPFOR actions and disrupt a major mechanized counterattack.

However, some reconnaissance units were not successful in supplying information. The MEB's Sensor Control and Management Platoon (SCAMP) was unable to

report consistently on enemy movements and positions. Inadequate communication equipment was a large part of the problem. The equipment used was a single channel UHF radio capable of transmitting line of sight approximately 40-50 miles. Additional satellite communications equipment and channels were unavailable.

The problem of insufficient channels on amphibious ships is not new as indicated by a study of the required communication nets for exercise NORTHERN WEDDING, 1986. The study revealed a total of seventy-nine nets were required (HF, VHF, AND UHF) for all systems to operate as designed. The number of nets available were fifty-one on the helicopter assault landing ship (LHA) and sixty-nine on the landing command and control ship (LCC).<sup>45</sup> Simple math shows that the landing force requires either an increased number of circuits or a different communications network design.

The lack of a communication system designed with reliable, interoperable, and redundant equipment poses a problem. The system requires correction. An improved command ship configured with multi-channel equipment and multi-satellite channel access for voice and data transmissions is a possible solution. The command element of the MAGTF must be able to communicate with the ground combat element (GCE), the aviation combat element (ACE), and the force service

support element (CSSE) during all phases of the amphibious assault.

Current communication system's capability consists of short range line of sight VHF. OTH requires either the longer range HF capability or an increase in the number of circuits capable of supporting UHF tactical satellite communications. Additionally, landing force and ATF forces must have equipment which is interoperable. In many cases, equipment and systems are not capable of operating together. Secure voice and data transfer equipment operate using different systems. The Marines are now using Vinson cryptogram, while many of the Navy amphibious ships<sup>46</sup> still use the Nestor type. The Marine Corps has undertaken several modernization programs to alleviate this and other communications problems. Single function systems are no longer viable. The stovepipe designed systems that the current operating forces use will no longer work in today's amphibious environment. There must be a capability to share and switch between circuits and systems. They must speak to each other.

The Marine Tactical Command and Control System<sup>47</sup> (MTACCS) and the Landing Force Integrated Communications System (LFICS)<sup>48</sup> conceptually are steps in the right direction but complete system integration and



fielding is in the future. These systems will bridge the present gap of incompatibility and interoperability.

An August 1988 article in the Marine Corps Gazette concluded that the KERNEL BLITZ 88-1 exercise did not prove "the superiority of indirect tactics over the time honored direct approach. However, complex, flexible amphibious assaults are manageable by both the Navy and the landing force." <sup>49</sup> The first waves of maneuver warfare and OTH assaults are upon us today.

## OTH

What is an OTH amphibious assault? This concept is a logical extension of present and near future transportation and communication technologies. It is maneuver based warfighting philosophy. The actions embodied in this idea consist of variations on a traditional assault from the sea. Various scenarios envision a multitude of missions to include such tasks as: seizure of airfields, deep raids against hostile command and communication centers, and insertion of blocking forces to secure avenues of approach to landing zones and beaches.

The advent of air cushioned vehicles, state-of-the-art helicopters, and the proposed tilt-rotor aircraft have given military planners visions of extending the modern amphibious task force's area of operations. "An ATF standing 400 nautical miles off Norfolk, VA, can, for example, threaten 1,000 miles of coastline extending from New York City to Cape Canav-<sup>50</sup>eral within a 24-hour period." The launch of a time-sequenced assault force by surface and air, operating in an area of this size, would be almost impossible to defend against. This strike force's ability to disrupt and confuse a hostile power would give the United States an unparalleled capability.

The indirect approach is fundamental in OTH opera-

tions. This type of warfare emphasizes "shattering the cohesion of the enemy through a series of rapid, violent, and unexpected actions which create a turbulent and rapidly deteriorating situation with which he can not cope."<sup>51</sup> This concept, simply explained, is as old as Sun Tzu's concept of an armed force being like torrent waters, flowing swiftly and having unexpected<sup>52</sup> but, decisive effects upon one's enemy.

A March 1991, Marine Corps OTH concept paper discussed various command and control requirements and characteristics. They included:

- (1) a use of mission type orders and an emphasis toward promoting an understanding of the commander's intent
- (2) emphasize decentralized control
- (3) use equipment operating from tactical vehicles, landing craft, ships, as well as equipment which is manportable
- (4) transmit communications that are resistant to interception and jamming and satisfy OTH distances
- (5) adhere to standardized operating procedures

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These requirements necessitate both the Marine maneuver warfare style tactics and the OTH employment methods. They support a flexible, but complex relationship between the landing force and the ATF. But they depend upon a capability of interoperability between the command and control systems of the MAGTF and the ATF. Information flow between all levels of the ATF and the MAGTF is crucial for coordination and

execution of tasks over the extended distance of OTH operations. Do we, the U.S. Marine Corps, have the doctrine, the staff, the commanders, and the communication networks to succeed in transmitting a decisive blow from extended distance against multiple targets?

From the evidence we found in analyzing theory and the practical examples, we postulated that the attributes of a decentralized command and control system suit OTH operations. The key points were: swiftness, decisiveness, and flexibility. Also, the commander and staff must act with initiative and competency in this environment of uncertainty. The adaptation of a maneuver warfighting philosophy gives the present day Marine Corps the foundation to operate in an environment of uncertainty and swift change. Initiative and flexibility are hallmarks of current Marine training. Professionalism in training, in education, and in every day job performance is expected. Competency and the ability to make hard decisions are the attributes sought in our leaders. Mentally and morally the Corps is ready operate in an OTH environment.

The conclusions reached from the span of control discussions identified a limit of three or four items, subordinates, or decisions for effective and efficient command and control by the commander. This seems particularly appropriate for OTH operations. The flexible organizational structure of the MAGTF gives the

commander and staff the framework upon which to function effectively and efficiently. This type of organization allows the commander to focus on orchestrating the mission and tasking for the MAGTF. A task which is within the theoretical and practical span of control criteria.

We saw in our discussion of KERNEL BLITZ that a trained staff could conduct amphibious operations effectively and efficiently. This staff processed information quickly and gave the commander a clear situation picture. The CLF used this information to make an informed decision 8 hours prior to a MEB sized amphibious assault. Staffs, manned by people selected for individual expertise, form the trained tool with which the commander gathers information, makes plans, and executes actions. During OTH operations, these small staffs could be taxed to operate under a shortened planning cycle with limited intelligence. Current MAGTFs, designated special operation capable {MEU(SOC)}, practice using a 6 hour planning cycle.  
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During the analysis of the practical operations, it was shown that an organization could function with precision if it used SOPs that were simple and direct. Units operating in the OTH environment would be well served if they adopted such procedures. These types

of SOPs allow quicker reponse and could reduce uncertainty in certain tactical situations. The MEU(SOC) MAGTF uses extensive SOPs and practiced tactical actions in the accomplishment of its assigned missions. They have conducted successful operations for over five years.

Adequate communications, from the discussion of theory and analysis of the practical examples, were determined to be most important in the command and control of any operation. The evidence suggested that the siting of communication assets aboard an inadequate platform would cause degraded performance in the amphibious force. The communication capabilities of the present day amphibious forces are the "Gordian Knot" preventing reliable, flexible command and control over extended distances. The type and number of communications circuits on the current generation of amphibious ships hinders communications between the ATF and the landing force. The landing force competes with the ATF and other naval forces for the far too few communications circuits now available.

OTH assaults are within the capabilities of the present ATF. However, these operations can not be taken without assuming risk. The present command and control system may be incapable of consistently communicating with forces beyond 40-50 miles.

## CONCLUSIONS

Our discussion has examined theory, perused doctrine both in a historical and present day context, and looked at the attributes of OTH assault. The theory portion proposed a command and control system for OTH operations. This system consisted of ten characteristics. Each characteristic increased the effectiveness and efficiency of the command and control system as seen by use of the four examination criteria. All ten characteristics are visible in the command and control doctrine of the present Marine Corps. The current doctrine of the Marine Corps uses a command and control system tailored for the conduct of maneuver warfare and OTH operations.

The four criteria highlighted several issues or faults in the historical examples. However, in the majority of the situations, commanders were able to overcome the shortcomings. Doctrine and SOPs underwent correction and modification. Staff efficiency increased due to enhanced training and educational programs. Commanders identified span of control problems and recommended changes in organizational structure. Overall these measures achieved a more effective operating force. Communications, our fourth area of analysis, was identified continually as a problem area. Even in the KERNEL BLITZ exercise, communication

systems limited the conduct of the exercise. And although work arounds were done, the root of the problem remained. Communications is the adhesive that bonds the entire command and control process together. It will determine success or failure.

The Corps has taken corrective measures in areas of weakness. However, these steps will take time. Correction should include a restructured communications system, new equipment procurement, and a continuation of the education process for its leaders and personnel in the area of command and control. The OTH assault is possible today; however, communications plays a large part in determining the amount of flexibility the MAGTF commander will have.

Command and control issues are not just a communication problems solvable by technology. The solution has to include an awareness of the complex relationship between man and machine. Solution of command and control system problems will come through an educational process of an organization's people. It will involve a selection process which identifies potential leaders and trains them to visualize the battlefield.



## ENDNOTES

(1)Richard E. Simpkin, Race to the Swift: Thoughts on Twenty-First Century Warfare (London and New York: Brassey's Publishers Limited, 1988), 228.

(2)Martin Van Creveld, Command in War (Cambridge, Massachusetts and London, England: Harvard University Press, 1985), 8.

(3)For the purpose of this discussion, the commander is normally thought to be the MAGTF commander. However, there certain instances where the Commander of the Amphibious Task Force (CATF) is also included.

(4)Current Marine Corps doctrine requires a MAGTF commander to execute 18 different type missions. These missions range across the operational continuum. They cover a gambit ranging from civil relief operations, to non-combatant evacuation operations, to forced entry operations.

(5)"Understanding and Developing Combat Power", Colonel Huba Wass De Czege USA, U.S. Army Command and General Staff College, Ft. Leavenworth, KS February 1984, 47-48.

(6)"Thoughts of a Soldier", Hans von Seedt, trans. G. Waterhouse (London: Ernest Benn Ltd., 1930). 123.

(7)Van Creveld, Command in War, 261.

(8)*Ibid.*, 261.

(9)*Ibid.*, 268.

(10)*Ibid.*, 75.

(11)*Ibid.*, 75.

(12)*Ibid.*, 269-272

(13)Simpkin, Race to the Swift, 227.

(14)*Ibid.*, 226-230.

(15)*Ibid.*, 231.

(16)*Ibid.*, 231.

(17)*Ibid.*, 234-235.

(18)Ibid., 255.

(19)Ibid., 249.

(20)Ibid., 238.

(21)Ibid., 239.

(22)Ibid., 260-261.

(23)Ibid., 240.

(24)Van Creveld, Command in War, note 104, page 287. The author sites a classic paper by G.A. Miller, "The Magical Number Seven", Psychological Review, 63, published in 1956, 81-96. "Normally, psychologists tell us, a person's span of control is limited to about seven objects or actions." Van Creveld suggests that confusion and stress during battle will reduce that number to 3 or 4 items.

(25)Captain C.H. Amme,USN,"U.S. Naval Proceedings," (March 1964) quoted in Col. Robert D. Heinl, USMC (Ret), Dictionary of Military and Naval Quotations, (Annapolis, MD: United States Naval Institute, 1966), 95.

(26)Col Robert D. Heinl, Jr. USMC (Ret). The U.S. Marine Corps: Author of Modern Amphibious Warfare. Edited by LtCol Merrill L. Bartlett. Assault from the Sea: Essays of the History of Amphibious Warfare.(Annapolis, Maryland: Naval Institute Press., 1983),187.

(27)Ibid., 187.

(28)Ibid., 187.

(29)Jeter A. Isly and Philip A. Crowl, U.S. Marines and Amphibious War: Its Theory and Its Practice in the Pacific (Princeton, New Jersey: Princeton University Press, 1951), 106.

(30)Ibid., 116-117. "Vandegrift was sent with almost 19,000 men some 550 miles beyond the most advanced friendly base. For six weeks he had planned and organized a full scale amphibious landing which depended upon complete naval support, with accompanying mastery of the sea and air. Only after his transport and cargo vessels had been loaded and were at a steaming distance of six days from the their base of embarkation did he learn that the navy would have to dart in and out of the target zone, that only through luck would there be time to unload the

amphibian shipping which his men with sacrifice of energy and morale, had stowed. The pillars of Vandegrift's planning collapsed at Kora."

(31)Ibid., 116.

(32)Ibid., 154.

(33)Ibid., 121.

(34)Ibid., 125.

(35)Ibid., 126.

(36)Ibid., 111.

(37)Col Robert D. Heinl, USMC (ret), Soldiers of the Sea: The U.S. Marine Corps 1775-1962, (Annapolis, MD: U.S. Naval Institute Press, 1962), 376.

(38)Isely and Crowl, The U.S. Marines and Amphibious War, 432.

(39)Ibid., 478.

(40)Heinl, Soldiers of the Sea, 464.

(41)Isely and Crowl, The U.S. Marines and Amphibious War, 530.

(42)U.S. Marine Corps FMFM 1, Warfighting, (Washington: Department of the Navy, 1989), 29.

(43)Composite Warfare is a concept that integrates five elements to accomplish and insure command of the sea. These elements are: AntiAir Warfare (AAW), AntiSurface Warfare (ASUW), AntiSubmarine Warfare (ASW), AntiLand Warfare (ALW), and AntiSpace Warfare (ASPW). Composite Warfare provides multiple protective shields to surround a specific naval force; the CVBG, BBB, and the ATF.

(44)Marine Corps Lessons Learned System, MCLLS, number 20634-78079 (00043) dtd 02/15/88. (Quantico, Va), 88-89. "It is not likely that either the OTC/CATF would want to delegate the battle execution of a key portion of the naval campaign. In fact, NWP 10-1 specifically prohibits the OTC from delegating his power projection responsibilities (including amphibious operations). The problem, then, is how to resolve the validity of NWP 22 (B) command relationships with the requirements of modern naval warfare that often impose severe conflicting requirements on the key commanders, CATF/OTC and the CLF."

(45)Capt. Michael S. O'Neil, USMC, Capt. Gordon E. Hartway III, USMC, and Capt. Michael W. Roe, USMC, "Communications for the Over-the-Horizon Amphibious Assault", Marine Corps Gazette, (March,1989), 36.

(46)Ibid., O'Neil, Hartway, and Roe, "Communications", 36.

(47)"MTACCS is an integrated, and automated C2 system with supporting tactical communications that covers all battlefield functional areas." A.M. Gray, Commandant, U.S. Marine Corps.

MTACCS is the umbrella concept that pulls together all the elements required to support the MAGTF. It includes the component C4I systems which support the four functional areas and the command support system application named Tactical Combat Operations overlay (TCO). The plan is to accomplish this transparent vertical and lateral multipath communication using currently available USMC assets: single channel radio, multi-channel radio, switched, and wire services. The local area network will have identical software environments at every node and each node will be capable of locally running all subordinate element specific applications. With this unified network concept, MTACCS will establish the Corps-wide distributed and integrated network required to support the interactive command application overlay at every node. "Command and Control Concept for Maneuver Warfare and Over-the-Horizon Operations (1995-2010)" Interim Report 2 dtd 23 Sept 1991, prepared by PRC INC. page 2-7

(48)Philip Walsh in an article in Signal Magazine gives a comprehensive summary of LFICS.

"The Landing Force Integrated Communications Systems (LFICS) is the name given to the total assemblage of organic tactical communications equipment and facilities which support the combat operations of a deployed MAGTF. The LFICS architecture, which is described below in some detail, has its genesis in a single purpose---to provide reliable and flexible communications support for any size MAGTF in the execution of any assigned mission. It includes portable and vehicle mounted single channel radio equipment as well as multichannel transmission, switching and terminal equipment. Both common-user and dedicated-user communications circuits are typically integrated into a single flexible system.

In addition to all intra-MAGTF communications facilities, the LFICS also includes transmission and terminal equipment to provide both voice and record traffic connectivity between a deployed MAGTF and the

Naval Telecommunications System (NTS) and /or the Defense Communications System (DCS)." Philip J. Walsh, "The Marine Corps Landing Force Integrated Communications System", in Naval Tactical Command and Control, ed. Gordon R. Nagler (Washington, DC: AFCEA International Press., 1988), 59-60.

(49) Col Richard B. Rothwell, "A Window on the Future of Amphibious Warfare KERNEL BLITZ 88-1," Marine Corps Gazette (August 1988): 88.

(50) Maj. Thomas C. Linn, "The Over-The-Horizon assault: Future of the Corps", Marine Corps Gazette, December 1987, 44.

(51) U.S. Marine Corps, Over the Horizon (OTH) Amphibious Operations Operational Concept, (Quantico, VA): Commanding General, U.S. Marine Corps Combat Development Command, 15 Mar 1991, C-1-1.

(52) Sun Tzu, The Art of War, trans. Samuel B. Griffith (New York: Oxford University Press, 1963), 92.

(53) U.S. Marine Corps, Over-the-Horizon (OTH) Amphibious Operations Operational Concept, 14-15.

(54) The MEU (SOC) is a MAGTF which incorporates all the fundamentals of MAGTF operations with a particular emphasis on the battalion landing team's light infantry capabilities. One of the priorities of the MEU (SOC) entails an emphasis on detailed planning and coordination.

"Detailed planning and coordination allows the unit to discern and exploit the enemy's weaknesses while avoiding his strengths. Both permit the integration of all available information gathered by both simple and sophisticated sources. Detailed coordination allows the force commander to use fully supporting units and services. During the planning process, the unit conducts thorough pre-mission training, briefings and rehearsals for all personnel. The use of special mission equipment is practiced and perfected. During rapid response operations, MEU (SOC) units conduct as much detailed planning and coordination as possible, in the given time frame, with the goal being to execute within six hours." U.S. Marine Corps, Standardized MEU (SOC) Training Handbook 1, (Norfolk, VA: Headquarters, Fleet Marine Force Atlantic, Department of the Navy, 1989), I-7.

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